



IUTAM Symposium on Discretization Methods for Evolving Discontinuities [

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Monografía

With mechanics focusing on smaller and smaller length scales, the need to properly model discontinuities increases. Technically important interface problems appear in solid mechanics, at fluid-solid boundaries, e.g. in welding and casting processes, and in aeroelasticity. Discretization methods have traditionally been developed for continuous media and are less well suited for treating discontinuities. Indeed, they are approximation methods for the solution of the partial differential equations, which are valid on a domain. Discontinuities divide this domain into two or more parts and at the interface special solution methods must be employed. Also, fluid-solid interfaces cannot be solved accurately except at the expense of complicated and time-consuming remeshing procedures. In recent years, discretization methods have been proposed, which are more flexible and which have the potential of capturing (moving) discontinuities in a robust and efficient manner. This volume assembles contributions of leading experts with the most recent developments in this rapidly evolving field

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